

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
25 August 2005 (25.08.2005)

PCT

(10) International Publication Number  
**WO 2005/078353 A1**

(51) International Patent Classification<sup>7</sup>: **F24C 15/20**

(21) International Application Number:  
PCT/SG2004/000424

(22) International Filing Date:  
21 December 2004 (21.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
200400668-0 13 February 2004 (13.02.2004) SG

(71) Applicant and

(72) Inventor: **SO, Kim Lui** [SG/SG]; Block 3, Normanton Park., #16-173, Singapore 119000 (SG).

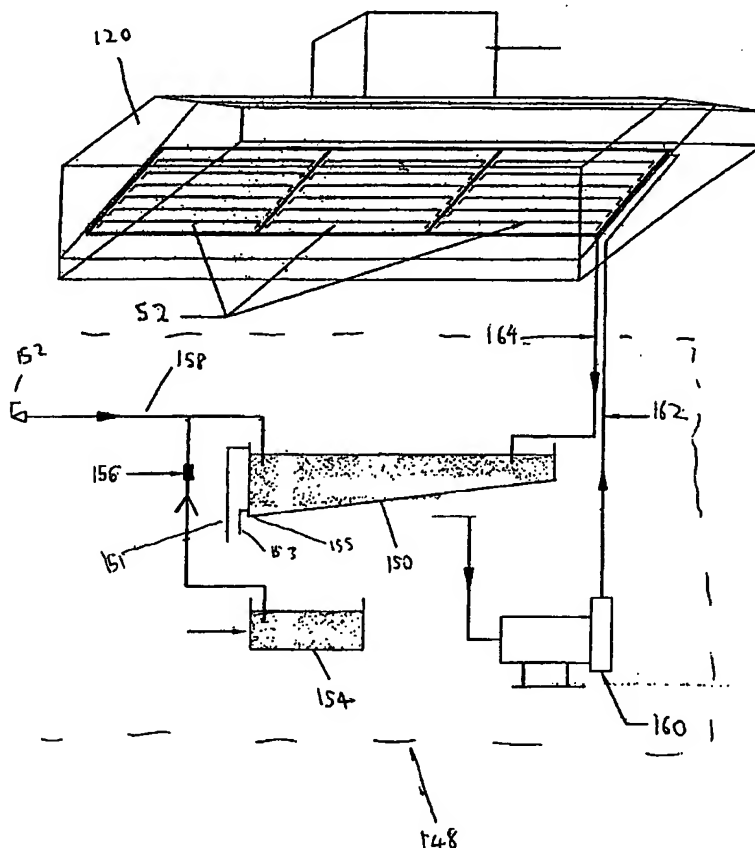
(74) Agent: **ALBAN TAY MAHTANI & DE SILVA**; 39 Robinson Road, #07-01 Robinson Point, Singapore 068911 (SG).

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: SELF CLEANING FILTER ASSEMBLY AND CIRCULATION SYSTEM



(57) Abstract: There is provided a self cleaning filter assembly for use in an exhaust system, including: a casing for placement in the path of an air flow, the casing containing: a first filter; a second filter; a barrier for placement adjacent to the casing to prevent a cleaning fluid from dripping from the first filter and out from the casing; and a plurality of spray outlets for dispersion of fluid within the casing and onto the filters. The plurality of spray outlets create droplets of the cleaning fluid of a size able to combine with droplets of a contaminant to form combined droplets in the air flow and wherein the first filter and the second filter captures droplets of the contaminant and droplets from the spray outlets. A circulation system for use with the filter assembly is also disclosed.



**Declaration under Rule 4.17:**

— *of inventorship (Rule 4.17(iv)) for US only*

**Published:**

— *with international search report*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*